

Attorney Docket No. TS6632/US

### **AMENDMENT TO THE CLAIMS**

This listing of claims is the same as was previously presented. Said claims are being presented as a matter of convenience.

#### **Listing of the Claims:**

1. (Canceled)
2. (Canceled)
3. (Canceled)
4. (Canceled)
5. (Canceled)
6. (Canceled)
7. (Canceled)
8. (Canceled)
9. (Canceled)
10. (Canceled)
11. (Previously presented): A poly(styrene-butadiene-styrene) polymer having a high vinyl content in the butadiene block comprising in combination:
  - i) a polystyrene content from 15% to 20% by weight;
  - ii) a coupling efficiency from 50 to 80%;
  - iii) a step I molecular weight from 9,000 to 10,000 kg/mol;
  - iv) a vinyl content from 20 to 45%; and
  - v) a melt flow rate of equal to or greater than 10.
12. (Previously presented): The polymer of claim 11 wherein the polystyrene content is from 16 to 19% by weight.
13. (Previously presented): The polymer of claim 11 wherein the polystyrene content is from 16 to 18% by weight.
14. (Previously presented): The polymer of claim 11 wherein the coupling efficiency is from 60 to 75%.

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15. (Previously presented): The polymer of claim 11 wherein the coupling efficiency is from 65 to 70%.

16. (Previously presented): The polymer of claim 11 wherein the vinyl content is from 25 to 40%.

17. (Previously presented): The polymer of claim 11 wherein the vinyl content is from 30 to 35%.

18. (Previously presented): The polymer of claim 12 wherein the vinyl content is from 25% to 40%.

19. (Previously presented): The polymer of claim 18 wherein the coupling efficiency is from 60% to 75%.

20. (Previously presented): The polymer of claim 17 wherein the polystyrene content is from 16% to 18% by weight.

21. (Previously presented): A hot melt adhesive composition comprising:

a) a poly(styrene-butadiene-styrene) polymer having a high vinyl content in the butadiene block, said polymer having:

- i) a polystyrene content from 15% to 20% by weight;
- ii) a coupling efficiency from 50 to 80%;
- iii) a step I molecular weight from 9,000 to 10,000 kg/mol;
- iv) a vinyl content from 20 to 45%; and
- v) a melt flow rate of equal to or greater than 10.

b) a tackifying resin;

c) an optional plasticizer; and

d) an anti-oxidant.

22. (Previously presented): The hot melt adhesive composition of claim 21 wherein the polymer has the following characteristics:

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- i) a polystyrene content from 16% to 19%;
- ii) a coupling efficiency from 60% to 75%;
- iii) a step I MW from 9,400 to 9,600 kg/mol; and
- iv) a vinyl content from 25% to 40%.

23. (Previously presented): The hot melt adhesive composition of claim 21 wherein the polymer has the following characteristics:

- i) a polystyrene content of about 19%;
- ii) a coupling efficiency of about 70%;
- iii) a step I MW of about 9,500 kg/mol; and
- iv) a vinyl content of about 30%.

24. (Previously presented): The hot melt adhesive composition of claim 21 having  
a) a hot melt viscosity at 170°C during 24 hours lower than 100 Pa.S (ASTM D3236-78);

- b) a rolling back tack of 1 cm to 5 cm (ASTM D3121-73);
- c) a flap test, 500 g weight, higher than 120 minutes (method described herein); and
- d) a HP 40°C, 1 kg weight, higher than 50 minutes (ASTM D3654-82).

25. (Previously presented): The hot melt adhesive composition of claim 21 wherein the tackifier is present in an amount from 50 to 200 parts by weight.

26. (Previously presented): The hot melt adhesive composition of claim 21 wherein the plasticizer is present in an amount is up to 100 parts by weight.

27. (Previously presented): The hot melt adhesive composition of claim 22 wherein the tackifier is present in an amount from 100 to 150 parts by weight.

28. (Previously presented): The hot melt adhesive composition of claim 22 wherein the plasticizer is present in an amount is up to 5 to 75 parts by weight.